

FIG.1

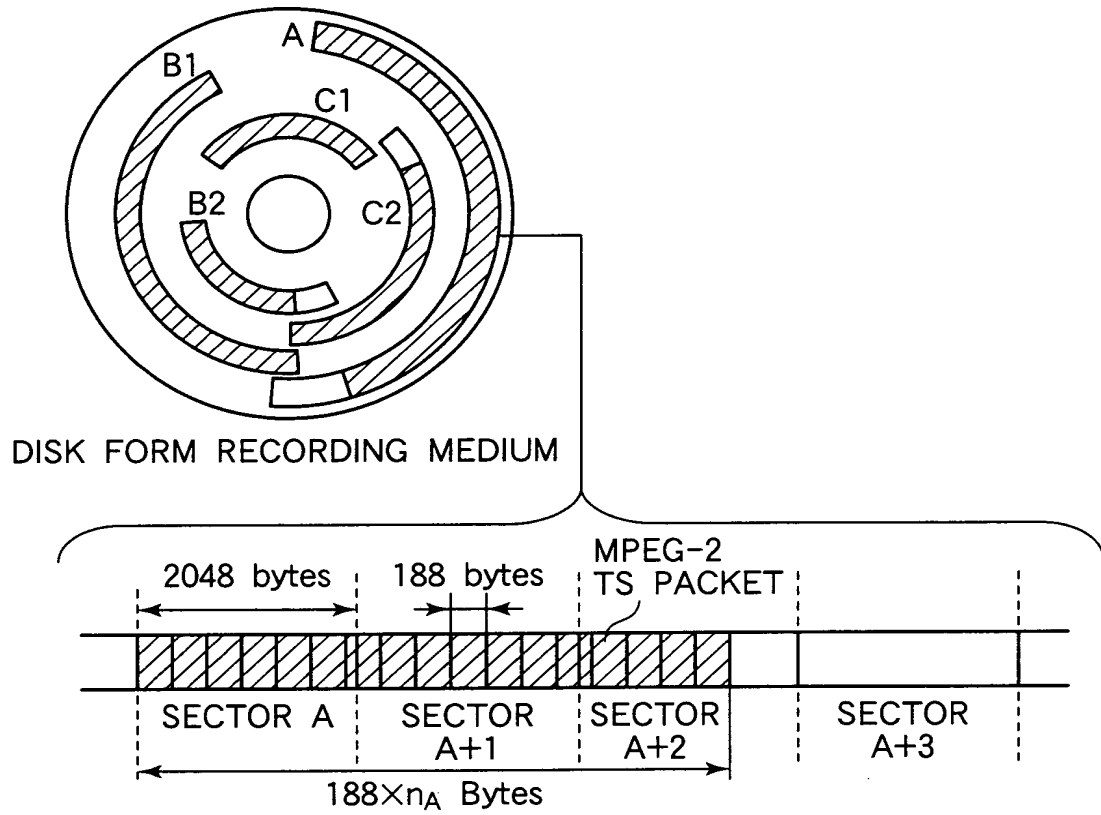


FIG.2

FILE NAME	START SECTOR NUMBER	ACCESS SIZE	FILE MAKING DATE
FILE A	A	$188 \times n_A$	yyyymmdd
FILE B	B1	$(188 \times n_B - X)$	yyyymmdd
	B2	X	...
FILE C	C1	$(188 \times n_C - Y)$	yyyymmdd
	C2	Y	...
...

FIG.3A

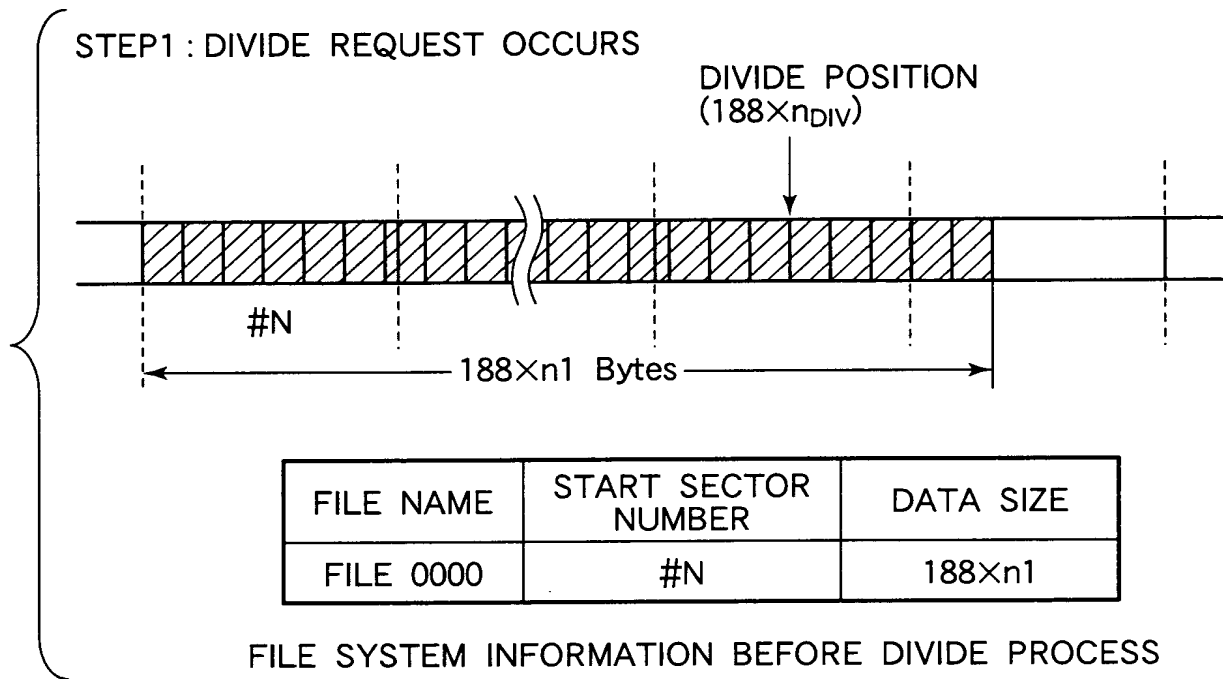


FIG.3B

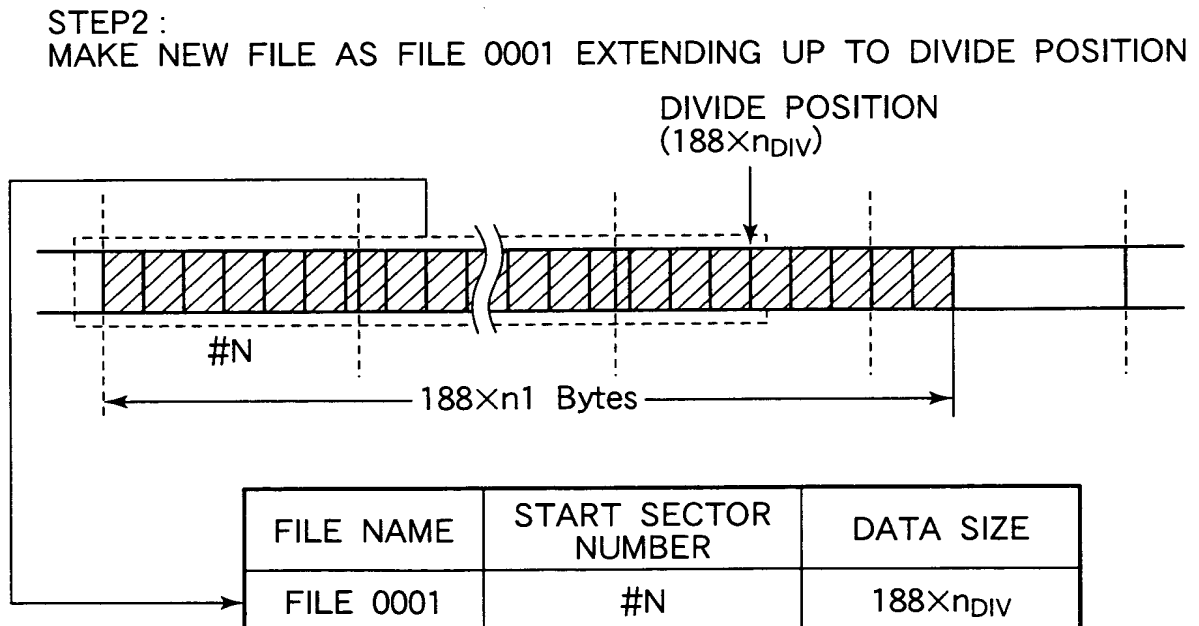


FIG.4A

STEP3 :

CALCULATE OFFSET L FROM DIVIDE POSITION TO BOUNDARY
TO THE NEXT SECTOR

$$L = 2048 - ((188 \times n_{DIV}) \bmod 2048)$$

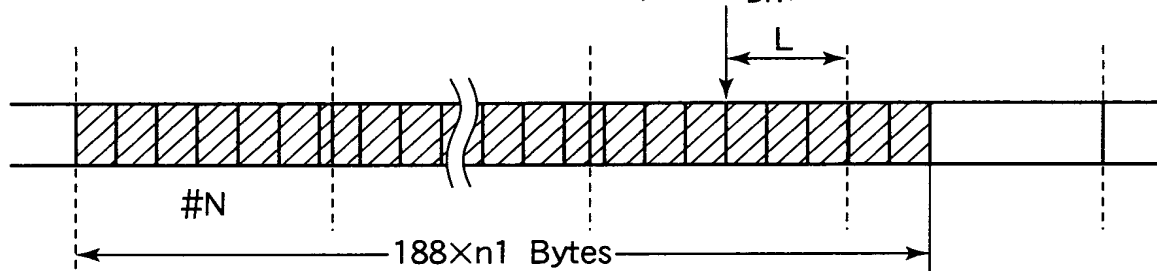
DIVIDE POSITION
($188 \times n_{DIV}$)

FIG.4B

STEP4 :

CALCULATE DUMMY TS PACKETS N_{NULL} FOR ADJUSTING ALIGNMENT
BETWEEN TS PACKET BOUNDARY AND SECTOR BOUNDARYWHEREIN N_{NULL} MEETS $(L + 188 \times n_{NULL}) \bmod 2048 = 0$

FIG.4C

STEP5 :

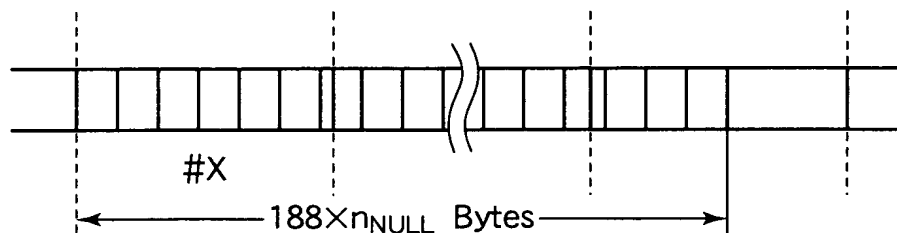
SEARCH NON-WRITTEN SECTOR NUMBER AND START SECTOR
NUMBER $\#X$, AND WRITE DUMMY TS PACKET

FIG.5A

STEP6 :
CALCULATE SECTOR NUMBER $\#N_{DIV}$ CONTAINING DIVIDE
POSITION $188 \times n_{DIV}$

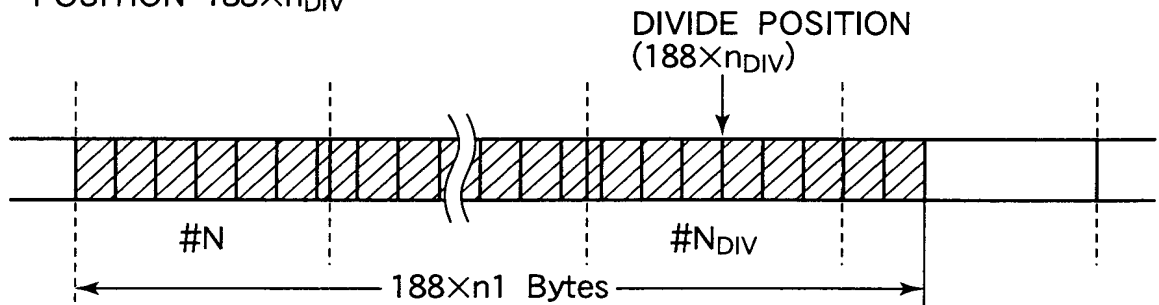
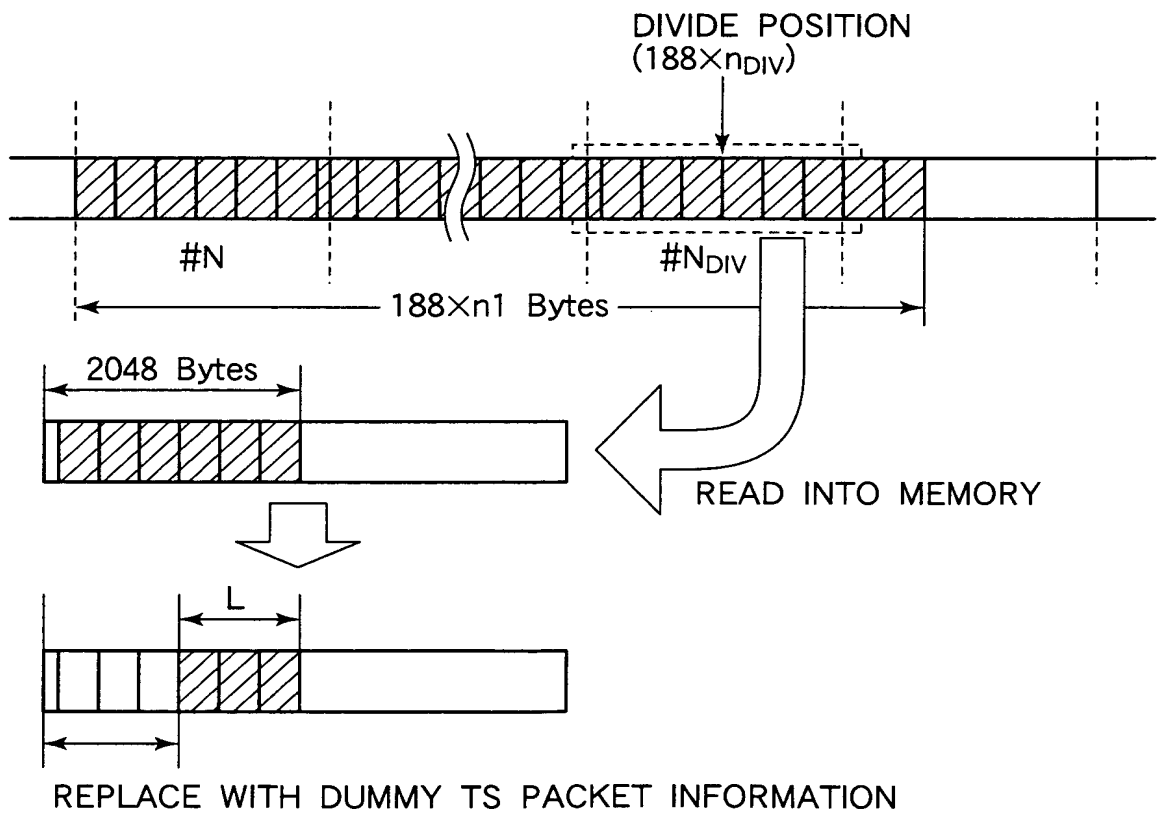


FIG.5B

STEP7 : READ SECTOR DATA OF SECTOR $\#N_{DIV}$



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FIG.6A

STEP8:
CALCULATE END SECTOR POSITION #Xend OF DUMMY TS PACKET

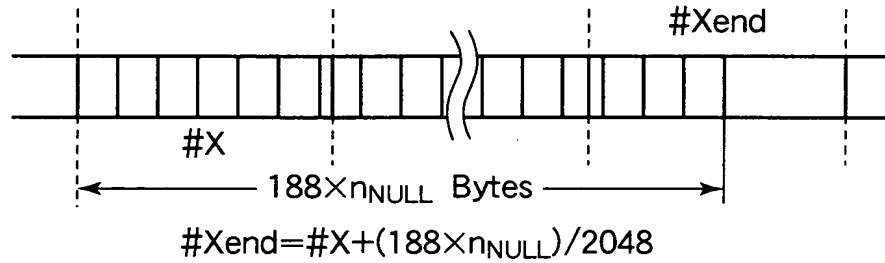


FIG.6B

STEP9:
OVERWRITE SECTOR DATA OF MEMORY ON SECTOR DATA #Xend

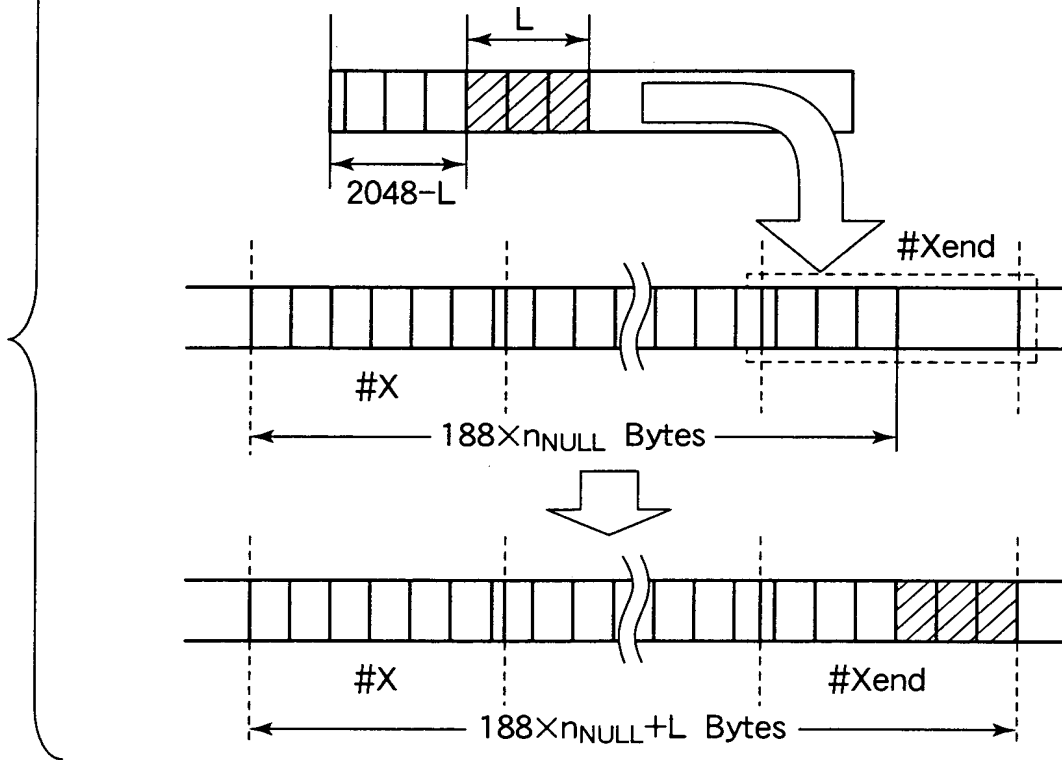


FIG.6C

STEP10:
NEWLY ENTER DATA AS FILE 0002 FOLLOWING TO DIVIDE POSITION

FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0001	#N	$188 \times n_{DIV}$
FILE 0002	#X	$188 \times n_{NULL} + L$
	$\#N_{DIV} + 1$	$188 \times n_1 - (188 \times n_{DIV} - L)$

FIG.7

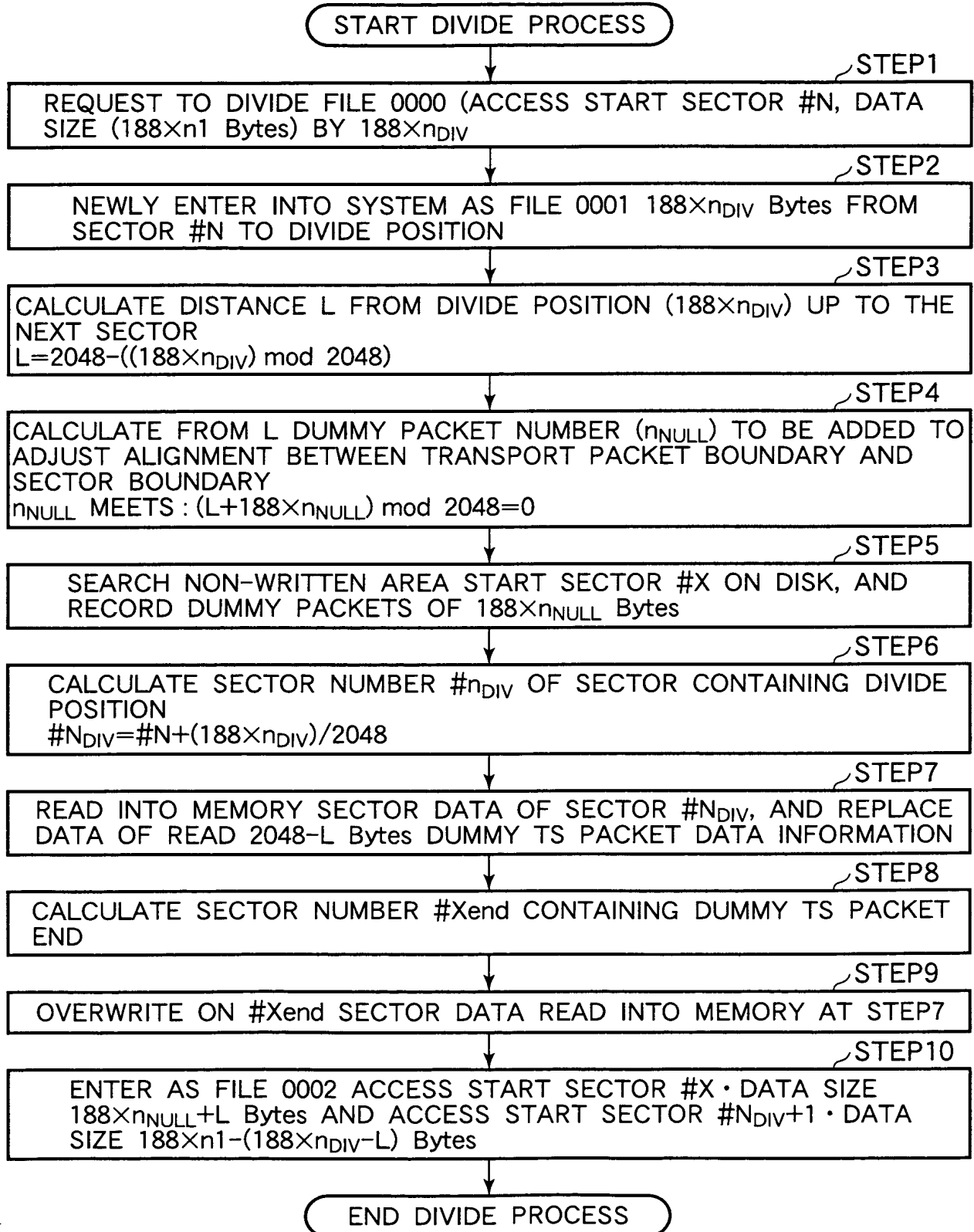


FIG.8

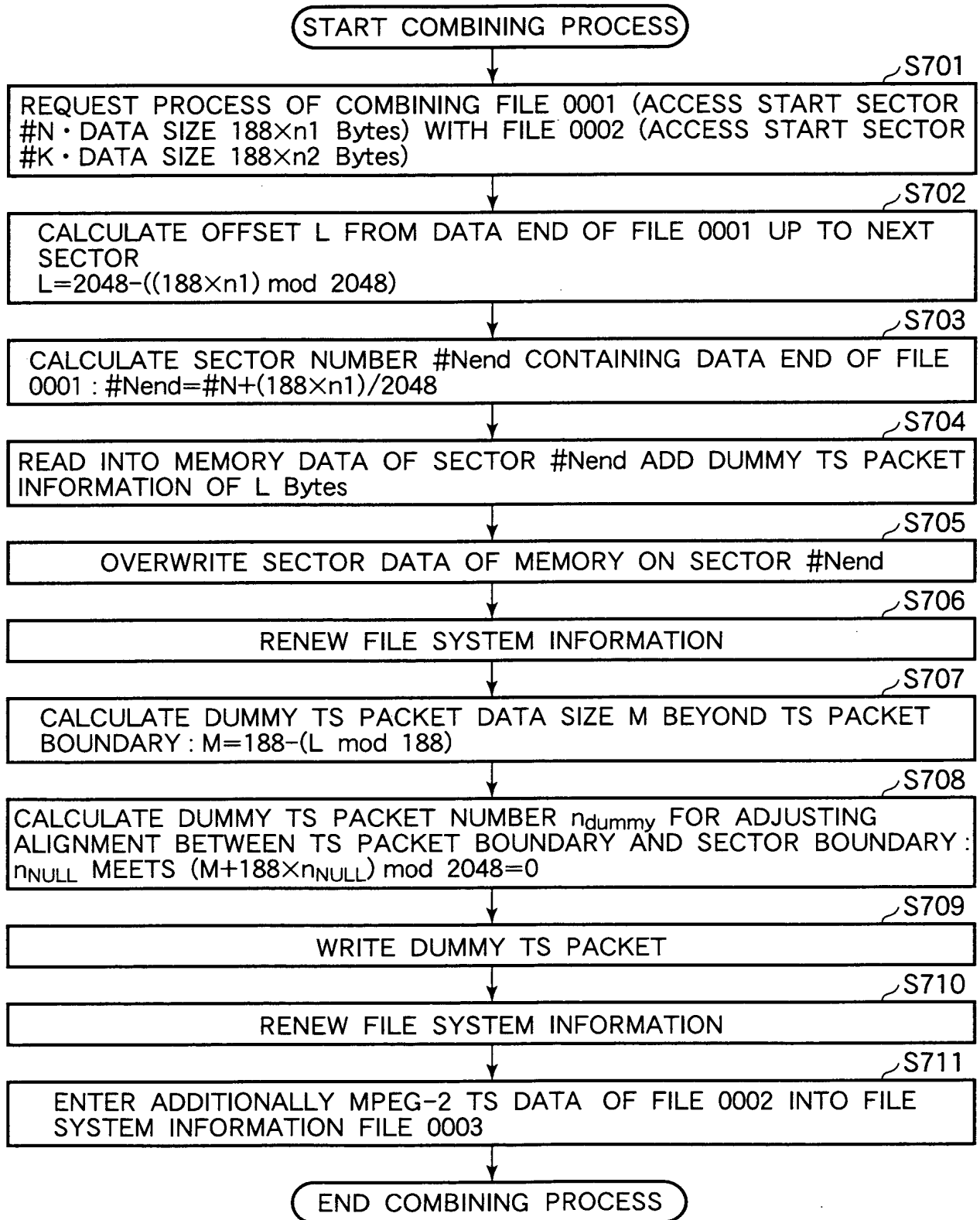
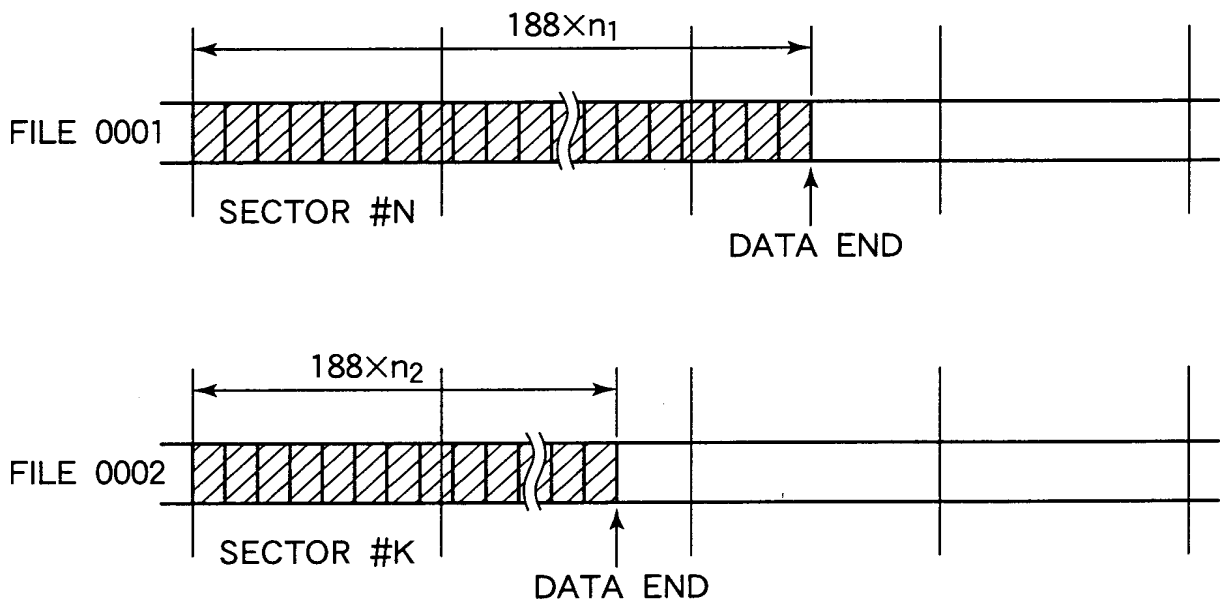


FIG.9

S701 : REQUEST COMBINING PROCESS



FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0001	#N	$188 \times n_1$
FILE 0002	#K	$188 \times n_2$

FILE SYSTEM INFORMATION BEFORE COMBINING PROCESS

FIG.10A

S702 :
CALCULATE OFFSET L FROM DATA END OF FILE 0001 UP TO THE NEXT
SECTOR

$$L = 2048 - ((188 \times n_2) \bmod 2048)$$

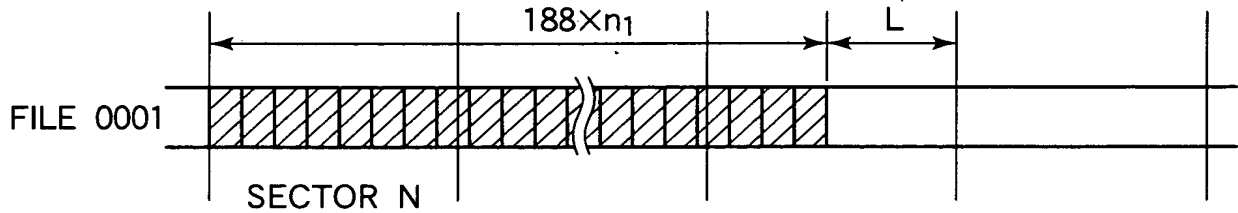


FIG.10B

S703 :
CALCULATE SECTOR NUMBER #Nend CONTAINING DATA END OF
FILE 0001

$$\#Nend = \#N + (188 \times n_1) / 2048$$

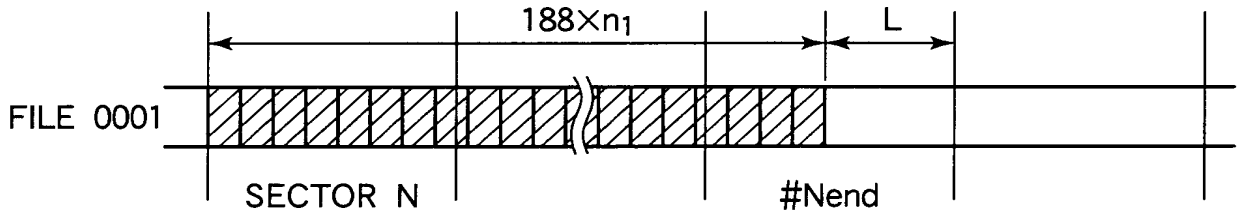
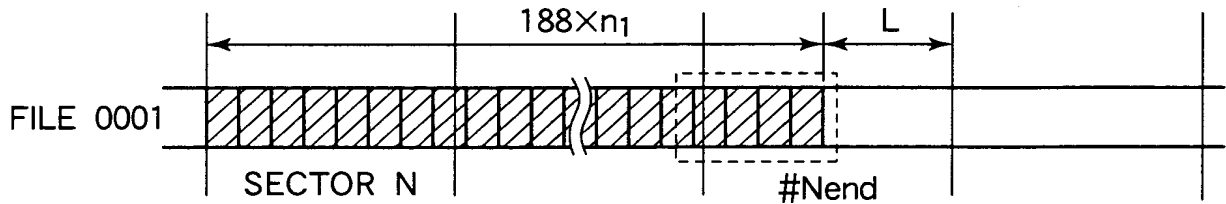
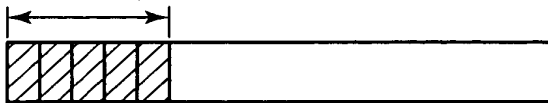


FIG.11

S704 : READ INTO MEMORY DATA OF SECTOR #Nend



2048-L Bytes



READ INTO MEMORY



2048 Bytes



ADD DUMMY TS PACKET INFORMATION OF L Bytes



Dummy Packet

FIG.12A

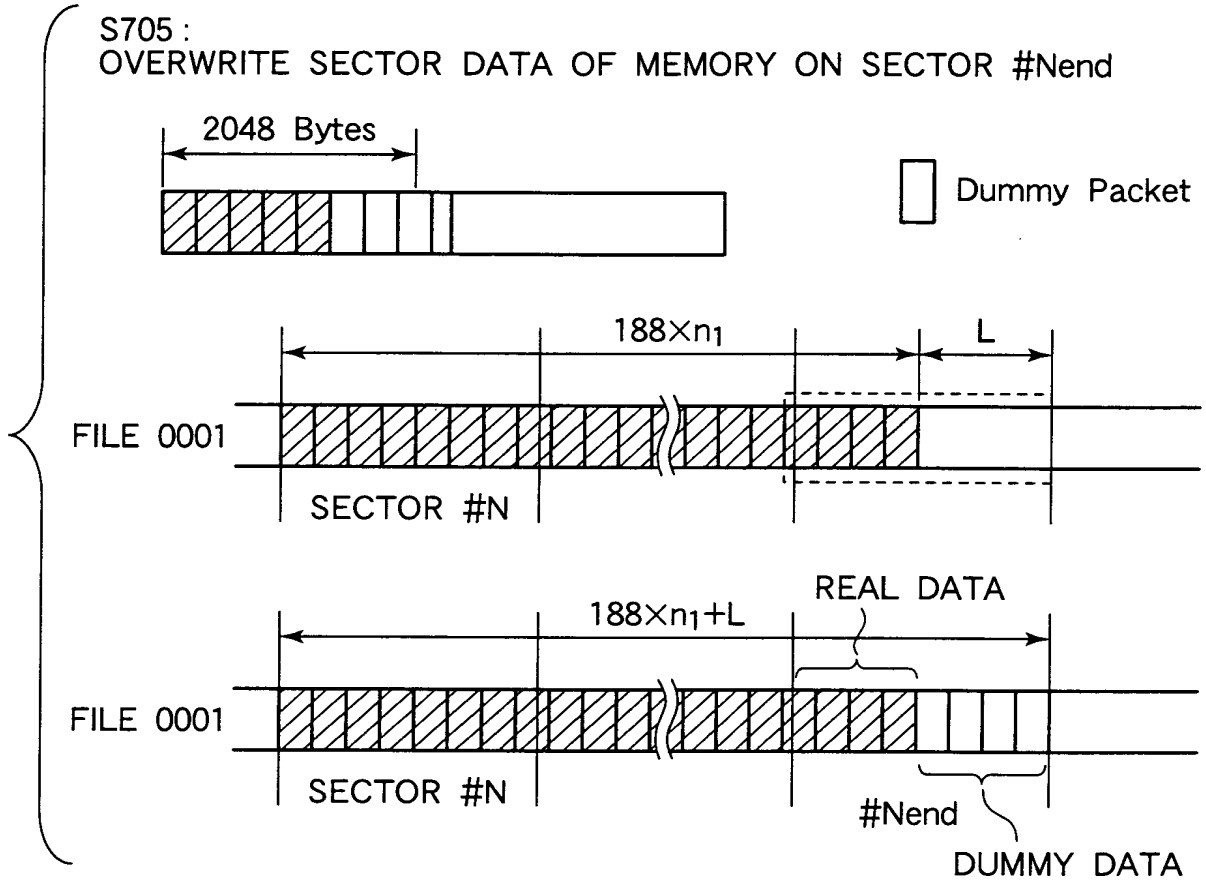


FIG.12B

S706 : RENEW FILE SYSTEM INFORMATION

FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0003	#N	$188 \times n_1 + L$

FIG.12C

S707 :
CALCULATE DUMMY TS PACKET DATA SIZE M BEYOND TS PACKET
BOUNDARY

$$M = 188 - (L \bmod 188)$$

FIG.13A

S708 :
CALCULATE DUMMY PACKET NUMBER N_{NULL} FOR ADJUSTING
ALIGNMENT BETWEEN TS PACKET BOUNDARY AND SECTOR
BOUNDARY

$$N_{NULL} \text{ MEETS : } (M+188 \times N_{NULL}) \bmod 2048 = 0$$

FIG.13B

S709 : READ DUMMY TS PACKET

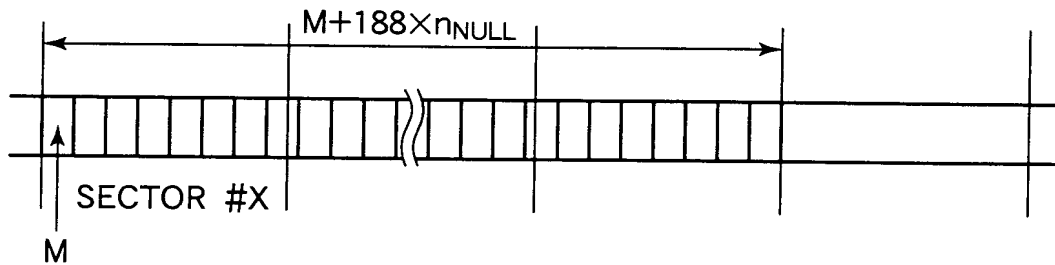


FIG.13C

S710 : RENEW FILE SYSTEM INFORMATION

FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0003	#N	$188 \times n_1 + L$
	#X	$188 \times n_{NULL} + M$

FIG.14

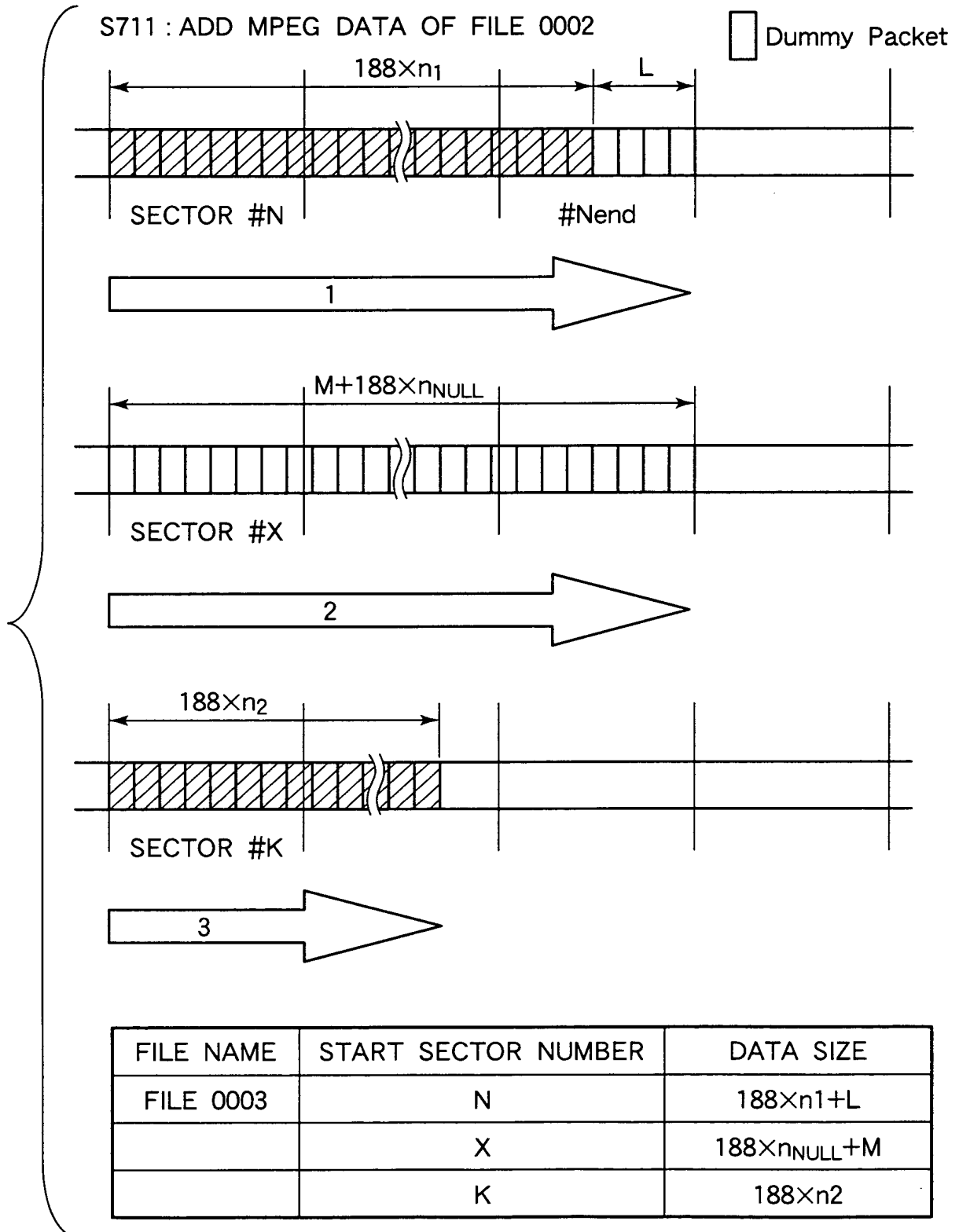


FIG.15A

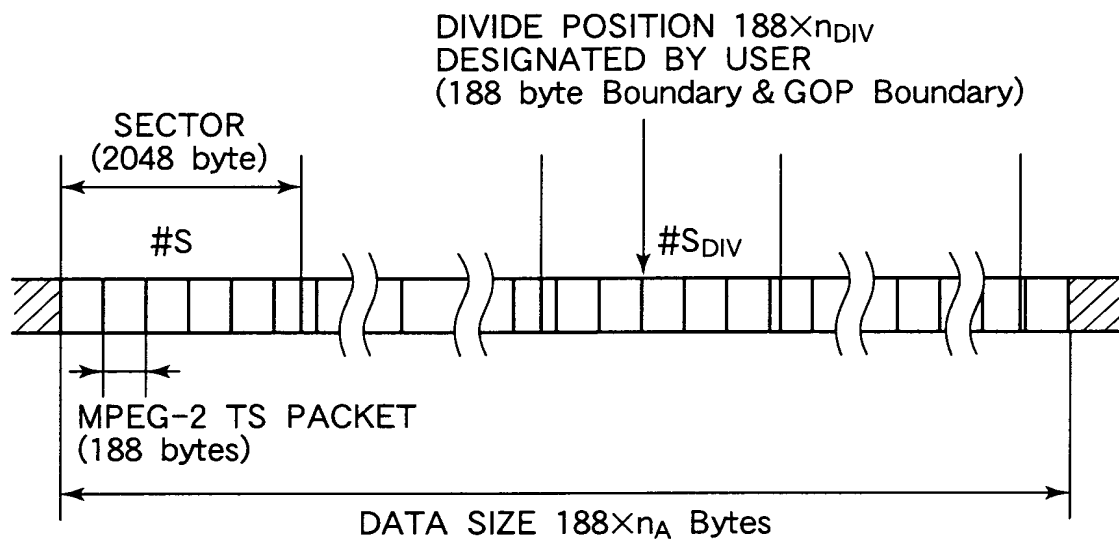


FIG.15B

FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE_A	S	$188 \times n_A$

FIG.16A

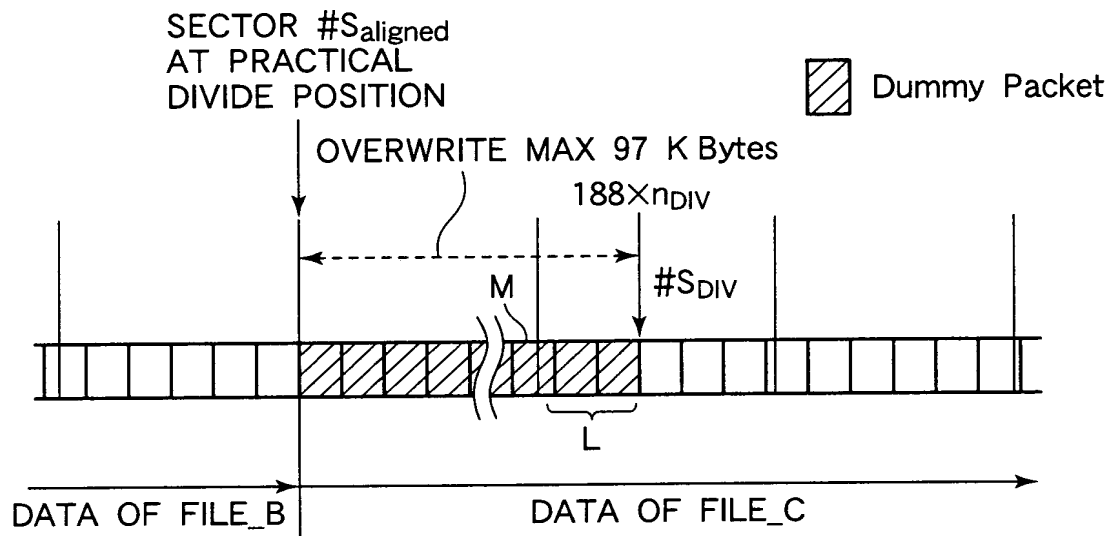


FIG.16B

FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE_B	S	$(S_{aligned}-S) \times 2048$
FILE_C	$S_{aligned}$	$188 \times n_A - (S_{aligned}-S) \times 2048$

FIG.17

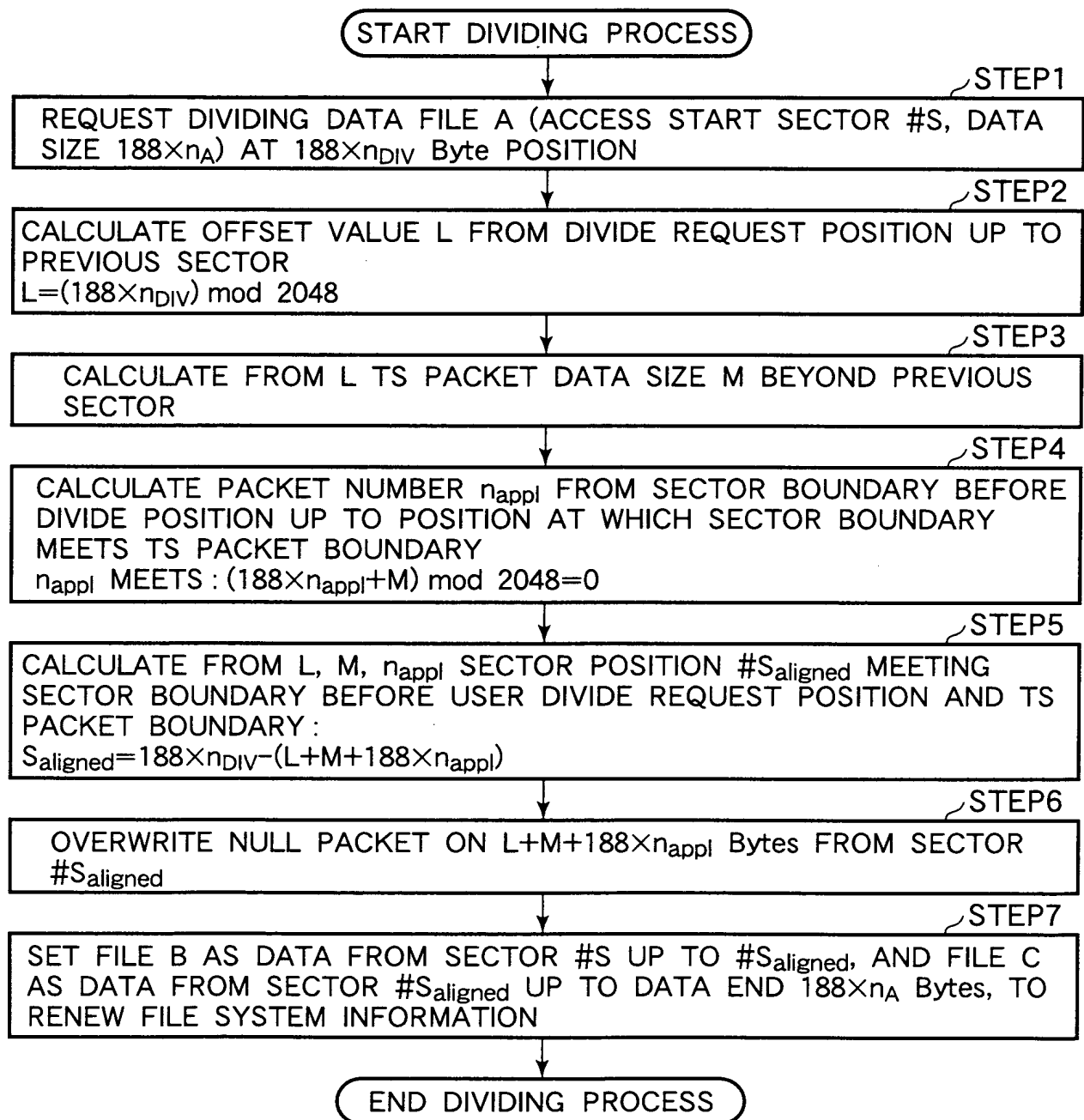


FIG.18

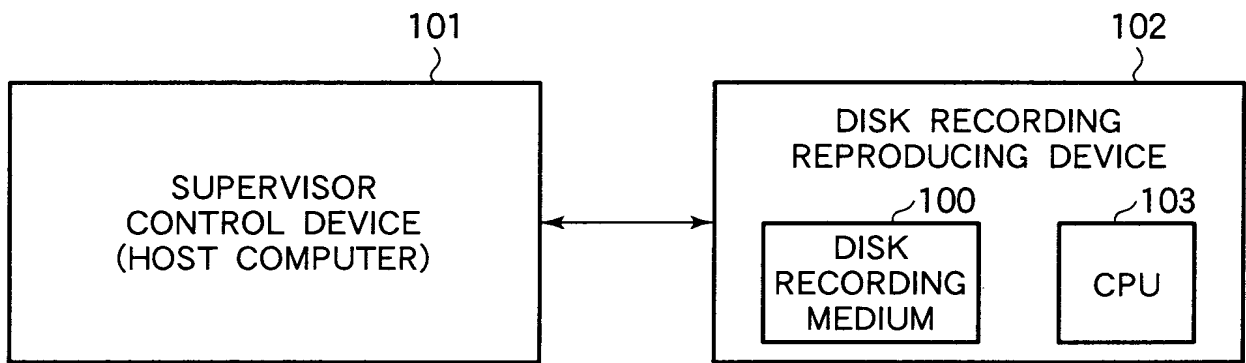


FIG.19

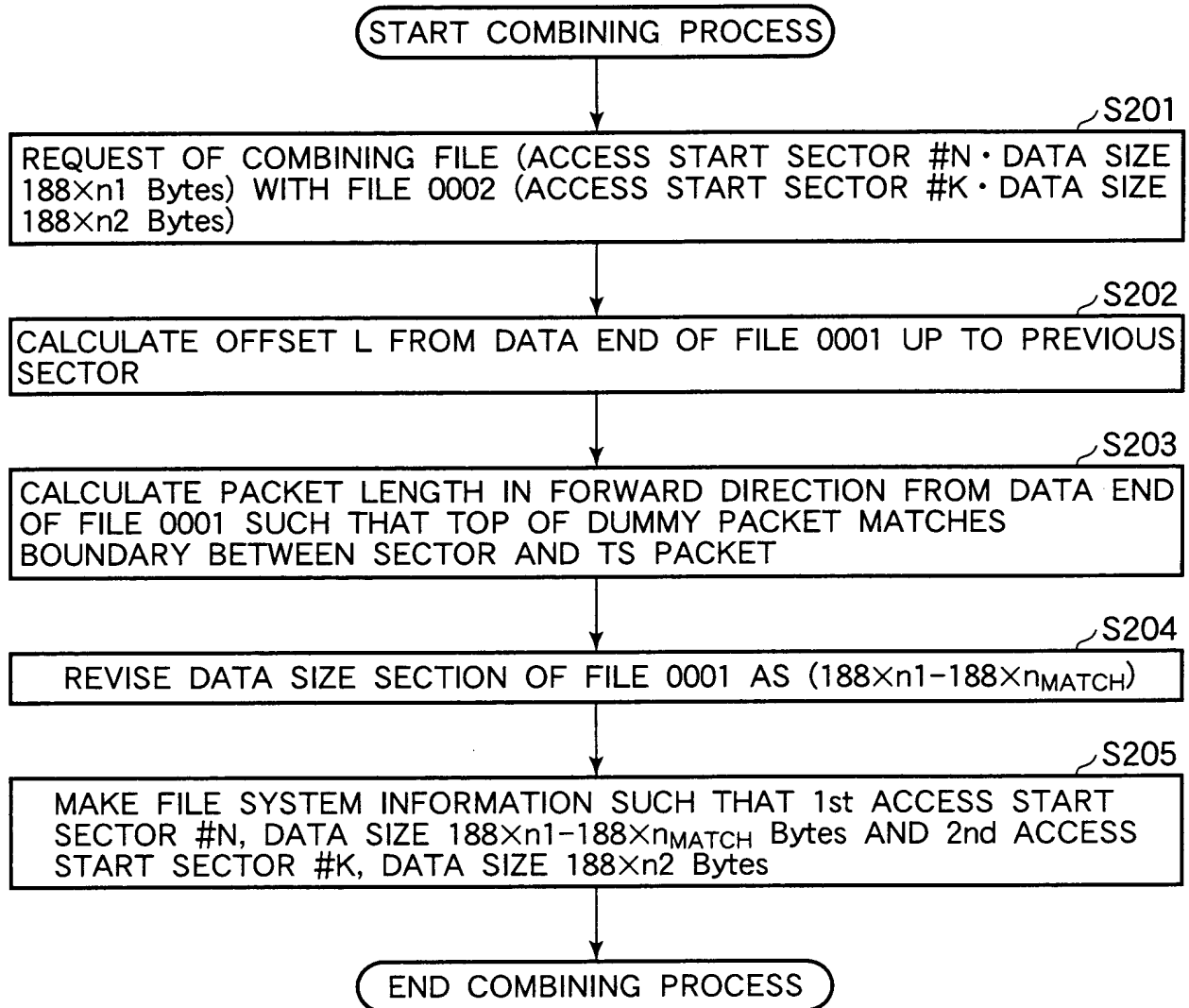
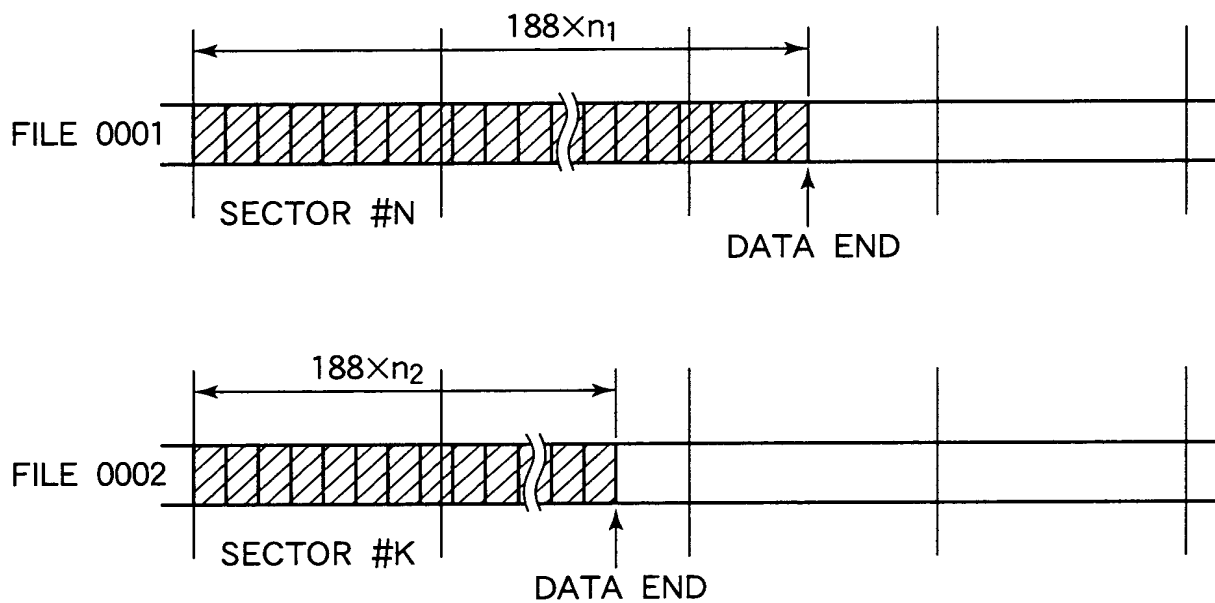


FIG.20

S201 : COMBINING PROCESS REQUEST OCCURS



FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0001	#N	$188 \times n_1$
FILE 0002	#K	$188 \times n_2$

FILE SYSTEM INFORMATION BEFORE COMBINING PROCESS

FIG.21A

S202 :
 CALCULATE OFFSET L FROM DATA END OF FILE 0001 UP TO PREVIOUS
 SECTOR

$$L = (188 \times n_1) \bmod 2048$$

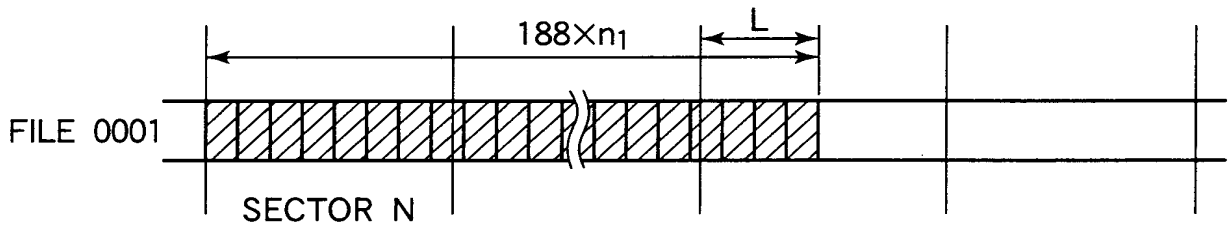


FIG.21B

S203 :
 CALCULATE LENGTH IN FORWARD DIRECTION FROM DATA END OF
 FILE 0001 TO COMMON BOUNDARY SUCH THAT PACKET BOUNDARY
 MATCHES SECTOR BOUNDARY :

$$n_{\text{MATCH}} \text{ MEETS } ((188 \times n_{\text{MATCH}}) - L) \bmod 2048 = 0$$

FIG.22A

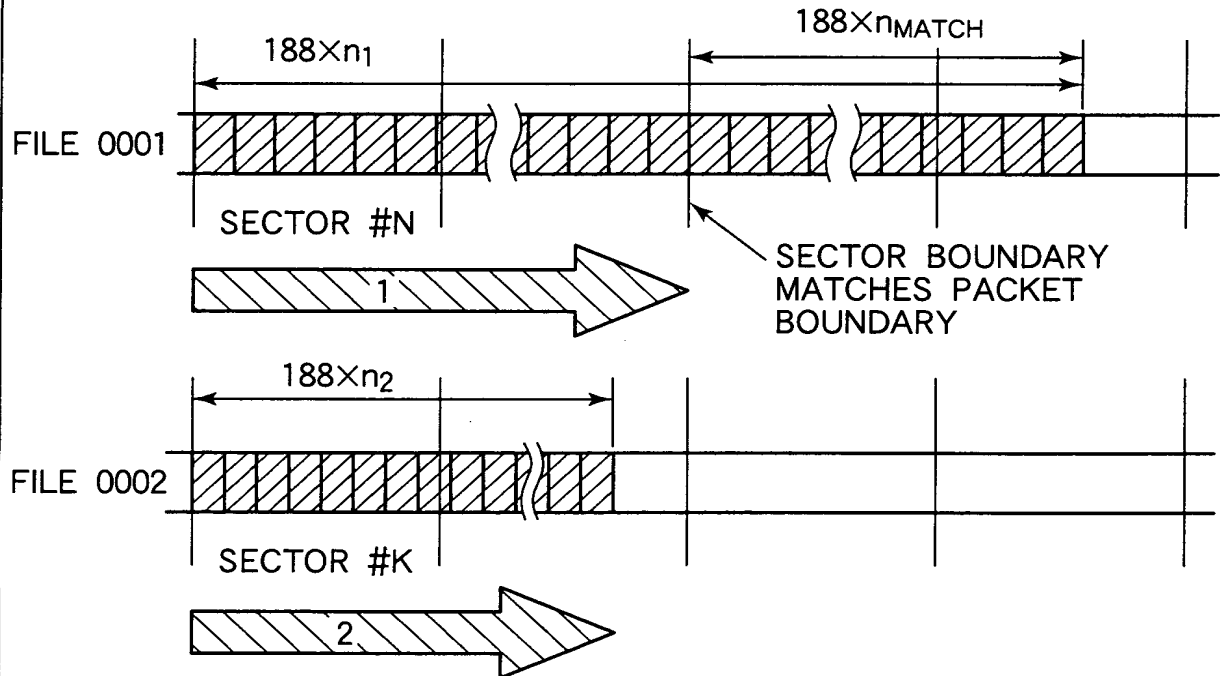
S204 :

REVISE DATA SIZE SECTION OF FILE 0001 IN FILE SYSTEM INFORMATION

FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0001	#N	$188 \times n_1 - 188 \times n_{MATCH}$
FILE 0002	#K	$188 \times n_2$

FIG.22B

S205 : RENEW FILE SYSTEM INFORMATION FOR COMBINING



FILE NAME	START SECTOR NUMBER	DATA SIZE
FILE 0003	1st ACCESS START SECTOR NUMBER #N	$188 \times n_1 - 188 \times n_{MATCH}$
	2nd ACCESS START SECTOR NUMBER #K	$188 \times n_2$

DATA LENGTH OF FILE 0001 BEFORE COMBINING CAN BE DIVIDED BY 2048 Bytes :

$$(188 \times n_1 - 188 \times n_{MATCH}) \bmod 2048 = 0$$